



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,009	03/31/2004	David Falconer	71493-1228 /slb	5255
7380	7590	11/01/2007	EXAMINER	
SMART & BIGGAR			WENDELL, ANDREW	
P.O. BOX 2999, STATION D				
900-55 METCALFE STREET				
OTTAWA, ON K1P5Y6				
CANADA				
			ART UNIT	PAPER NUMBER
			2618	
			MAIL DATE	DELIVERY MODE
			11/01/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/813,009	FALCONER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew Wendell	2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7, 9-11, and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 9-11 and 18-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 7, 10-11, 19, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yarkosky (US Pat# 6,895,218).

Regarding claim 1, Yarkosky's in-building distribution using wireless access technology teaches a partner relay system (Fig. 1) comprising a first relay 2 (Fig. 1) adapted to receive a first signal in the downlink direction 6 (Fig. 1) on a first wireless transmission resource 102 (Fig. 3), perform a first signal translation on the first signal to a second transmission resource 104 (Fig. 3), and re-transmit the first signal in the downlink direction 10 (Fig. 1) on the second wireless transmission resource 106 (Fig. 3); a second relay 12 (Fig. 1) in a spaced arrangement from the first relay adapted to receive the first signal in the downlink direction 10 (Fig. 1) on the second wireless transmission resource from the first relay 108 (Fig. 3), perform a second signal translation 110 (Fig. 3) to re-translate the first signal to the first wireless transmission resource, and re-transmit the first signal 112 (Fig. 3) in the downlink direction 14 (Fig. 1); wherein the first wireless transmission resource 102 (Fig. 3) or 2 (Fig. 1) is a

transmission resource allocated for forward link transmissions 10 (Fig. 1) or 106 (Fig. 3) from the first transceiver, and the second wireless transmission resource 12 (Fig. 1) or 156 (Fig. 4) is a transmission resource allocated for reverse link transmissions 156 (Fig. 4 or 20 (Fig. 1) to the first transceiver 2 (Fig. 1).

Regarding claim 2, Yarkosky teaches wherein each signal translation is an analog translation (Fig. 3).

Regarding claim 3, Yarkosky teaches wherein each signal translation is a frequency translation (Fig. 3).

Regarding claim 7, Yarkosky teaches wherein the first signal is transmitted by the base station 100 (Fig. 3), and the second relay re-transmits the first signal for reception by the wireless station 110-114 (Fig. 3).

Regarding claim 10, Yarkosky teaches wherein the first relay 2 (Fig. 1) comprises a first antenna 50 (Fig. 2) for communicating with the cellular communications system, and a second directional antenna 66 (Fig. 2) for communicating with the second relay 12 (Fig. 1), and wherein the second relay comprises a third directional antenna for communicating with the first relay 108 (Fig. 3), and a fourth antenna for communicating with the wireless station 112 (Fig. 3).

Regarding claim 11, Yarkosky teaches the second relay is further adapted to receive a second signal on a third wireless transmission resource 152 (Fig. 4), perform a third signal translation to translate the second signal to a fourth wireless transmission resource 154 (Fig. 4) and re-transmit the second signal 156 (Fig. 4); the first relay is further adapted to receive the second signal on the fourth wireless transmission

resource from the second relay 158 (Fig. 4), perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource 160 (Fig. 4), and re-transmit the second signal 162 (Fig. 4).

Regarding claim 19, Yarkosky teaches a third relay 362 (Fig. 8) adapted to receive a second signal on a third wireless transmission resource, perform a third signal translation to translate the second signal to a fourth wireless transmission resource and re-transmit the second signal; a fourth relay 366 (Fig. 8) further adapted to receive the second signal on the fourth wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource, and re-transmit the second signal.

Regarding claim 21, a third relay 362 (Fig. 8) adapted to receive a second signal on the second wireless transmission resource, perform a third signal translation to translate the second signal to the first wireless transmission resource and re-transmit the second signal (Col. 8 lines 13-18); a fourth relay 366 (Fig. 8) adapted to receive the second signal on the first wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the second wireless transmission resource, and re-transmit the second signal.

Regarding claim 22, method claim 22 is rejected for the same reasons as system claim 1 since the recited elements would perform the claimed steps.

Regarding claim 23, method claim 23 is rejected for the same reasons as system claim 19 since the recited elements would perform the claimed steps. Further Yarkosky teaches wherein the third wireless transmission resource is a transmission

Art Unit: 2618

resource allocated for reverse link transmissions to the first transceiver (Col. 8 lines 19-31) and the fourth wireless transmission resource is a transmission resource allocated for forward link transmissions from the first transceiver (Col. 7 line 66-Col. 8 line 12).

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Talaie et al. (US Pat# 6,985,716).

Regarding claim 4, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky fails to teach a CDMA signal.

Talaie's radio signal broadcast system teaches a first signal is a CDMA signal (Col. 2 lines 34-43 and Col. 6 lines 55-61).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a CDMA signal as taught by Talaie into Yarkosky's in-building distribution using wireless access technology in order to increase capacity (Col. 3 lines 59-67).

4. Claims 9, 18, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Tirabassi et al. (US Pat# 6,400,925).

Regarding claim 9, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky teaches FDMA and TDMA

Art Unit: 2618

(Col. 3 lines 29-42) which is similar to TDM or FDM. However, Yarkosky fails to teach TDM/FDM resource.

Tirabassi's packet switch control with layered software teaches wherein the first wireless transmission resource comprises a combined TDM/FDM resource (Col. 5 lines 1-21).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate TDM/FDM resource as taught by Tirabassi into Yarkosky's in-building distribution using wireless access technology in order to meet performance requirements (Col. 2 lines 30-39).

Regarding claim 18, Yarkosky teaches the limitations in claims 1 and 11.  
Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

Regarding claim 20, Yarkosky teaches the limitations in claims 1 and 19.  
Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

***Response to Arguments***

Applicant's Remarks	Examiner's Response
"Yarkosky does not suggest that the intermediate downlink frequency could be a transmission resource allocated for reverse link transmissions as recited in amended claim 1."	Yarkosky clearly teaches reverse link transmissions 18, 20, and 22 (Fig. 1).

<p>"There is no suggestion or disclosure in Fuerter that a reverse link channel on a first carrier frequency is used for a forward link transmission."</p>	<p>Claim 1 does not include the limitation of a "first carrier frequency." The amended claim 1 is broader in scope than the original claim 8 and therefore Fuerter was not used as prior art.</p>
<p>"The Examiner has stated that the motivation in combining Yarkosky and Tirabassi is 'in order to meet performance requirements (Col. 2 lines 30-39)'. Applicant submits that the Examiner has failed to satisfy the onus of identifying any of the three possible sources for a motivation to combine in such a generic statement and thus the requirement to establish motivation to combine references for establishing a prima facie case of obviousness has not been satisfied for claims 9, 18, and 20."</p>	<p>The motivation was the motivation cited in Tirabassi. Both Tirabassi and Yarkosky teaches a communication system that uses repeaters to allow communication. Therefore the Examiner believes the combination of Yarkosky in view of Tirabassi is reasonable.</p>

**Conclusion**

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Andrew Wendell  
Examiner  
Art Unit 2618

10/19/2007



**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**